

Serial No.: 10/713,310

Examiner: D. PARRIES

Title: METHOD, MEMORY MEDIA AND APPARATUS FOR DETECTION OF GRID DISCONNECT

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**REMARKS/ARGUMENTS**

Reconsideration is requested in view of the following remarks. Claims 2-3, 8 and 13 have been editorially revised as suggested by the Examiner. Claims 1, 6 and 11 have been editorially revised without adding new subject matter. Support for the revisions to claim 1, 6 and 11 can be found in Figures 2, 4 and 5, and also in paragraphs 25-26 and 28-30 of the specification. Claims 1-15 remain under consideration in the present application.

**Claim Rejections – 35 USC §112**

Claims 2-3, 8 and 13 are rejected under 35 U.S.C. §112, second paragraph since the phrase “frequency/frequencies/comparison of a current/previous zero-crossing” should instead read -- frequency/frequencies/comparison at a current/previous zero-crossing--.

Claims 2-3, 8 and 13 have been editorially revised to now recite --frequency/frequencies/comparison at a current/previous zero-crossing--. This rejection is therefore overcome.

**Claim Rejections – 35 USC §102**

Claims 1, 6 and 11 are rejected under 35 U.S.C. §102(e) as anticipated by Wall (US 2004/0178641). Applicants respectfully traverse this rejection.

Claim 1 is directed to a method for preventing islanding in a power system that includes a power grid having a feeder connected in circuit with a distributed generator and at least one load. The method claims determining a phase shift of a voltage based solely upon consecutive frequency measurements over multiple periods of time at an output of said distributed generator.

The rejection asserts that Wall teaches multiple measurements of the frequency of the voltage signal via the first and second phase locked loops ([0009]). The determined phase shift disclosed by Wall however, is a snapshot determined at a single point in time. An absolute value of a phase shift between a fast PLL and a slow PLL is compared with ( $\pi/2$ ); and if the absolute value exceeds ( $\pi/2$ ), a generator system will be commanded to

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stop energizing the POC....([0128]). Figures 9A and 9B clearly show that the monitored voltage is transmitted simultaneously to both the fast and slow PLL in parallel.

Although Wall teaches the use of phase locked loops, each phase locked loop disclosed by Wall is used to estimate a phase angle and not determine a phase shift; and the pair of phase locked loops (fast and slow) operates to estimate a pair of phase angles that are then compared to determine a phase shift. Thus, the phase shift between the fast and slow PLL disclosed by Wall is determined from a pair of estimated phase angles, and is not based solely on consecutive frequency measurements taken over multiple periods of time as required by claim 1. Nowhere does Wall teach or suggest determining a phase shift of a voltage based solely on consecutive frequency measurements over multiple periods of time.

The patentable features of claims 6 and 11 correspond with the patentable features of claim 1 that claims a phase shift based on consecutive measurements over multiple periods of time.

For at least these reasons, claims 1, 6 and 11 are patentable over Wall.

#### **Claim Rejections – 35 USC §103**

Claims 2, 3, 7, 8, 12 and 13 are rejected under 35 U.S.C. §103(a) as unpatentable over Wall in view of Pawate et al. (US 5,749,064). Applicants respectfully traverse this rejection for the same reasons discussed above regarding the rejection of claims 1, 6 and 11, since claims 2 and 3 depend ultimately from claim 1, claims 7 and 8 depend ultimately from claim 6 and claims 12 and 13 depend ultimately from claim 11.

For at least these reasons, claims 2 and 3 are patentable over the cited art, alone or in combination, since they depend ultimately from claim 1 that is allowable. Claims 7 and 8 are patentable since they depend ultimately from claim 6 that is allowable. Claims 12 and 13 are patentable since they depend ultimately from claim 11 that is allowable. Applicants do not concede the correctness of the rejection or the relevance of the cited art to the remaining features of claims 2-3, 7-8 and 12-13.

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**Claim Objections**

Claims 4, 5, 9, 10, 14 and 15 are objected to as being dependent upon a rejected base claim. Applicants respectfully traverse this objection. Claims 4 and 5 are patentable since they depend ultimately from claim 1 that is allowable. Claims 9 and 10 are patentable since they depend ultimately from claim 6 that is allowable. Claims 14 and 15 are patentable since they depend ultimately from claim 11 that is allowable.

Favorable reconsideration in the form of a Notice of Allowance is requested. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at (507) 351-4450.

**006147**

PATENT TRADEMARK OFFICE

Respectfully submitted,

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